SCHOOL OF PLANNING AND ARCHITECTURE, VIJAYAWADA

SEMESTER END EXAMINATIONS (SPECIAL SUPPLEMENTAY)
JULY – 2017

B. ARCH III YEAR V SEMESTER

THEORY OF STRUCTURES (TS-5)

Maximum Marks – 100 **Time – 3.00 Hours**

a) Answer any Four out of 1 to7 questions.
b) Question No.8 is compulsory and answer any four out of six sub questions.
c) Code books (i) IS 456:2000 (ii) IS 800:2007 (iii) Steel Tables are allowed.
d) Scientific Calculator is allowed.

Q1. Explain in detail the procedure for design of continuous steel beams. **(20M)**

Q2. Design an R.C.C pile to cary a load of 800KN. Use M_{ZO} grade Concrete and Fe415 grade steel. The length of the pile is 4m. **(20M)**

Q3. A four span continuous one-way slab is to be used for a marriage hall. The centre to centre distance of supporting beams is 3.6m. Design the slab using M_{ZO} grade concrete and HYSD reinforcement of grade Fe 415. **(20M)**

Q4. Explain in detail about statically determinate and indeterminate structures. **(20M)**

Q5. Design a two span continuous beam ABC where AB=BC=5m and supported on masonry walls at A,B and C having 230 mm thickness. The beam is rectangular and carries a characteristic dead load inclusive of its self weight of 20 KN/m. It also carries a live load of 10KN/m. Design the beam using M_{ZO} grade concrete and HYSD reinforcement of grade Fe 415. **(20M)**

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Q6. Explain in detail the types of deep foundations with sketches. **(20M)**

Q7. Explain in detail the step wise procedure for design of continuous Two way slabs. **(20M)**

Q5. Write short notes on any FOUR of the following: **(4x5= 20M)**

a) Types of structural Foundations.
b) General requirements of Foundations.
c) Cite two examples each for the five categories of 'environmental exposure' described in the code.
d) Laboratory tests to be conducted on R.C.C beams and the procedure for testing.
e) Degrees of static and kinematic indeterminacy.
f) Code of practice applicable for design loads for buildings and structures for dead loads, imposed loads, wind loads and special loads.

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